WE CLAIM:

1. A method for olefin polymerization comprising:

providing a reactor system including a plurality of reactors, each said reactor defining an internal reaction zone;

conducting an exothermic olefin polymerization reaction on an olefin polymerization reaction mixture in each reaction zone;

supplying an olefin containing feedstock and dividing the same into a plurality of separate feedstock streams;

introducing a separate one of said olefin containing feedstock streams into the reaction zone of each reactor;

separately circulating the reaction mixture in each reactor at a flow rate that is independent of the rate of introduction of the respective stream of feedstock into the reaction zone;

removing a crude polyolefin product stream from each of said reactors; and

combining said crude polyolefin product streams to form a single crude product stream.

2. A method as set forth in claim 1, wherein said system includes two of said reactors and said olefin polymerization reaction mixture is divided into two separate streams.

3. A method as set forth in claim 1, wherein said system includes at least three of said reactors and said olefin polymerization reaction mixture is divided into at least three separate streams.

4. A method for conducting an olefin polymerization reaction comprising:

recirculating an olefin polymerization reaction mixture in a reaction zone of an olefin polymerization reactor;

introducing an olefin containing feedstock into said recirculated olefin polymerization reaction mixture, said olefin polymerization reaction mixture being recirculated at a flow rate which is independent of the rate of introduction of said feedstock into said zone;

introducing a catalyst composition comprising a catalyst and a catalyst modifier into said reaction mixture;

subjecting said polymerization reaction mixture to exothermic olefin polymerization reaction conditions in said zone in the presence of said catalyst composition; and

introducing a catalyst modifier into said recirculating olefin polymerization reaction mixture at a rate which is independent of the rate of introduction of said catalyst composition into said zone.

5. A liquid phase polymerization process for preparing polyisobutylene, said process comprising:

providing a feedstock comprising isobutylene;

providing a catalyst composition comprising a complex of BF_3 and a complexing agent;

introducing said feedstock and said catalyst composition into a reaction mixture in a reaction zone;

intimately intermixing said reaction mixture, said feedstock and said catalyst composition to present an intimately intermixed reaction admixture in said reaction zone;

maintaining the intimately intermixed reaction admixture in its intimately intermixed condition while the same is in said reaction zone, to thereby cause the isobutylene therein to undergo polymerization to form polyisobutylene;

introducing an additional amount of said complexing agent into said intimately intermixed reaction admixture at a rate which is independent of the rate of introduction of said catalyst composition; and

withdrawing a product stream comprising polyisobutylene from said reaction zone.

6. A process as set forth in claim 5, said reaction zone comprising a loop reactor wherein the reaction admixture is continuously recirculated at a first volumetric flow rate, and said feedstock and said catalyst composition are continuously introduced at a combined second volumetric flow rate.

7. A method as set forth in claim 6, wherein said complexing agent comprises methanol.

8. A method as set forth in claim 7, wherein the product is a highly reactive polyisobutylene and the ratio of BF_3 to methanol in said catalyst composition is no less than about 0.59:1.

9. A method as set forth in claim 7, wherein the product is a highly reactive polyisobutylene and the ratio of BF_3 to methanol in said catalyst composition is in the range of from about 0.59:1 to about 0.62:1.

10. A method as set forth in claim 8, wherein the product is a highly reactive polyisobutylene and a sufficient amount of methanol is independently introduced to cause the ratio of BF_3 to methanol in said intimately intermixed reaction admixture catalyst composition to be maintained in the range of from about 0.59:1 to about 0.60:1 during the course of the reaction.

11. A method as set forth in claim 9, wherein a sufficient amount of methanol is independently introduced to cause the ratio of BF_3 to methanol in said intimately intermixed reaction admixture catalyst composition to be maintained at approximately 0.59:1 to about 0.62:1 during the course of the reaction.

12. A method as set forth in claim 6, wherein said intimately intermixed reaction admixture catalyst composition is maintained at a temperature of at least about 0° C while the same is in said reaction zone.

13. A method as set forth in claim 6, including controlling the introduction of said feedstock into said reaction zone and the withdrawal of said product stream from the reaction zone such that the residence time of the isobutylene undergoing polymerization in the reaction zone is no greater than about 4 minutes.

14. A method as set forth in claim 12, including controlling the introduction of said feedstock into said reaction zone and the withdrawal of said product stream from the reaction zone such that the residence time of the isobutylene undergoing polymerization in the reaction zone is no greater than about 4 minutes.

15. A method as set forth in claim 13, wherein the introduction of said feedstock into said reaction zone and the withdrawal of said product stream from the reaction zone are controlled such that the residence time of the isobutylene undergoing polymerization in the reaction zone is no greater than about 3 minutes.

16. A method as set forth in claim 13, wherein the introduction of said feedstock into said reaction zone and the withdrawal of said product stream from the reaction zone are controlled such that the residence time of the isobutylene undergoing polymerization in the reaction zone is no greater than about 200 seconds.

17. A method as set forth in claim 7, wherein the product is a mid-range vinylidene content polyisobutylene and the ratio of BF_3 to methanol in said catalyst composition is about 1:1.

18. A method as set forth in claim 8, wherein the product is a mid-range vinylidene content polyisobutylene and a sufficient amount of methanol is independently introduced to cause the ratio of BF_3 to methanol in said intimately intermixed reaction admixture catalyst composition to be maintained at approximately 1:1 during the course of the reaction.

19. A method as set forth in claim 14, wherein the introduction of said feedstock into said reaction zone and the withdrawal of said product stream from the reaction zone are controlled such that the residence time of the isobutylene undergoing polymerization in the reaction zone is no greater than about 3 minutes.

20. A method as set forth in claim 14, wherein the introduction of said feedstock into said reaction zone and the withdrawal of said product stream from the reaction zone are controlled such that the residence time of the isobutylene undergoing polymerization in the reaction zone is no greater than about 200 seconds.